



IBPS PRELIMS - 30 DAYS REVISION PLAN

CLASS 17 - SIMPLE INTEREST & COMPOUND INTEREST

Q1. Ramesh invested Rs. 6660 in simple interest at the rate of R% per annum for 6 years. After 6 years, he again invested the same sum at the rate of (R+1.5)% for 6 years. The total simple interest obtained from the investment is Rs. 7392.6. Find the value of R.

a. 9.5

b. 6.2

☒ c. 8.5

d. 5.5

e. None of these

$$S.I._1 + S.I._2 = 7392.6$$

$$\frac{6660 \times 6 \times R}{100} + \frac{6660 \times 6 \times (R+1.5)}{100} = 7392.6$$

$$\frac{6660 \times 6}{100} [R + R + 1.5] = 7392.6$$

$$2R + 1.5 = \frac{7392.6}{133.2}$$

$$2R + 1.5 = 18.5$$

$$2R = 17$$

$$R = 8.5\%$$

$$\begin{array}{r} 18.5 \\ 74 \overline{) 1369} \\ \underline{74} \\ 629 \\ \underline{592} \\ 370 \\ \underline{370} \\ 0 \end{array}$$



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Q2. A sum when invested at R% simple interest amounts to Rs.9500 in 5 years and Rs.13100 in 9 years. Find the interest received when the same amount is invested at (R+7)% per annum simple interest for 2 years.

a. Rs.2400

b. Rs.1600

c. Rs.4200

d. Rs.3600

☒ e. Rs.2500

$$\begin{array}{l} \times 9 \left\{ \begin{array}{l} 5 \text{ yr} \rightarrow 9500 \\ 9 \text{ yr} \rightarrow 13100 \end{array} \right\} \begin{array}{r} 13100 \\ - 9500 \\ \hline 3600 \end{array} \end{array}$$

$$\begin{array}{r} P = 9500 \\ - 4500 \\ \hline 5000 \end{array}$$

$$\frac{18}{26} \times \frac{4500}{100} = \frac{5000 \times 7 \times 2}{100}$$

$$18 = 8$$

$$4 \text{ yr} = 3600$$

$$1 \text{ yr} = 900$$

$$5 \text{ yr} = 4500$$

$$\begin{array}{l} R+7 = 18+7 \\ = 25\% \end{array}$$

$$I = \frac{5000 \times 2 \times 25}{100}$$

$$= 100 \times 25$$

$$= 2500$$

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Q3. Anu invested Rs.10700 in simple interest at the rate of $R\%$ per annum for 3.5 years and obtained an interest of Rs.7490. If Babu invested Rs.6000 in simple interest at the same rate of interest for 8 years, then find the interest obtained by Babu.

✓ a. Rs.9600

b. Rs.7500

c. Rs.8400

d. Rs.6000

e. None of these

$$7490 = \frac{10700 \times 3.5 \times R}{100}$$

$$\frac{7490 \times 100}{107 \times 35} = R$$

$$20\% = R$$

$$I = \frac{6000 \times 20 \times 8}{100}$$

$$= 1200 \times 8$$

$$= 9600$$



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Q4. Ishaan invested Rs. 3360 in scheme 'P' at a simple interest rate of 25% per annum for A months and he invested Rs. 4000 in another scheme 'Q' at a simple interest rate of 2A% per annum for 3 years. If the total interest received by him from both the schemes is Rs. (300A + 80), then find the value of A.

a. 11

b. 5

☒ c. 8

d. 10

e. 9

$$\begin{aligned} S.I._1 + S.I._2 &= 300A + 80 \\ \frac{3360 \times 25 \times A}{100 \times 12} + \frac{4000 \times 2A \times 3}{100} &= 300A + 80 \end{aligned}$$

$$70A + 240A = 300A + 80$$

$$310A - 300A = 80$$

$$10A = 80$$

$$\boxed{A = 8}$$

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Q5. A shopkeeper Ramesh invested Rs. $(x + 500)$ at a rate of 10% per annum in simple interest for 4 years and obtained an interest of Rs. $(0.8x + 200)$. Find the value of $(2x + 900)$.

a. 1200

b. 600

c. 800

☒ d. 900

e. Cannot be determined

$$0.8x + 200 = (x + 500) \times \frac{10}{100} \times 4$$

$$4x + 1000 = 2x + 1000$$

$$x = 0$$

$$2x + 900 = 900$$

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Q6. Anbu invested Rs. P in scheme A which offers compound interest of 15% p.a., compounded annually and Rs. P in scheme B which offers compound interest of 15% p.a. compounded after every 4 months. At the end of 1 year, if the difference between the amount received by Anbu from scheme A and B after 1 year is Rs. 122, then find the value of P.

- a. 16000
- b. 24000
- c. 20000
- d. 18000
- e. 17500

$$A - B = 122$$

$$P \left(1 + \frac{15}{100}\right)^1 - P \left(1 + \frac{15}{300}\right)^3 = 122$$

$$P \left(\frac{23}{20}\right) - P \left(\frac{21}{20}\right)^3 = 122$$

$$P \left[\frac{23}{20} - \frac{21}{20} \times \frac{21}{20} \times \frac{21}{20} \right] = 122$$

$$P \left[\frac{9200 - 9261}{8000} \right] = 122$$

$$P \times \frac{1}{8000} = \frac{122}{9200 - 9261}$$

$$P = 16000$$

$$\begin{array}{r} 21 \times 21 \\ \times 21 \\ \hline 21 \times 21 \\ \times 21 \\ \hline 21 \times 21 \\ \times 21 \\ \hline 9261 \end{array}$$



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Q7. Somu invested Rs.X in a scheme offering a compound interest of 10% p.a. compounded annually but the interest rate offered by the scheme increases by 10% each year. The total interest earned by Somu at the end of 3 years is Rs.5728. If he had invested Rs.X in simple interest at a rate of 20% for 2 years, then find the interest received.

a. Rs.4290

☒ b. Rs.3200

c. Rs.1780

d. Rs.2450

e. Rs.5200

$$X \times \frac{110}{100} \times \frac{120}{100} \times \frac{130}{100} = X + 5728$$

$$1.716X = X + 5728$$

$$0.716X = 5728$$

$$X = \frac{5728}{0.716}$$

$$X = 8 \times 1000 = 8000$$

$$I = \frac{8000 \times 2 \times 20}{100}$$

$$= 3200$$

$$8000$$

$$\begin{array}{r} 1600 \\ 1600 \\ \hline 3200 \end{array}$$

$$\begin{array}{r} 12 \times 13 \\ \hline 36 \\ 12 \\ \hline 156 \times 11 \\ \hline 156 \\ \hline 1716 \end{array}$$

$$\begin{array}{r} 179 \overline{)1432} \\ \underline{1432} \\ 0 \end{array}$$

$$\begin{array}{r} 0.716 \\ \times 8 \\ \hline 5.728 \end{array}$$

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P

Q8. The simple interest and compound interest on a certain sum of money at a certain rate ^{$\%$} of interest after 2 years are Rs.2400 and Rs.2592 respectively. Find the principal.

- ☒ a. Rs.7500
- b. Rs.8000
- c. Rs.9000
- d. Rs.9500
- e. None of these

$$S.I = \frac{Pnr}{100}$$

$$\frac{2400}{2} = \frac{P \times 2 \times r}{100}$$

$$1200 = \frac{Pr}{100}$$

$$Diff = P \left(\frac{r}{100} \right)^2$$

$$2592 - 2400 = \frac{P \times r \times r}{100 \times 100}$$

$$\frac{192}{100} = \frac{1200 \times r}{100}$$

$$16 = r$$

$$\frac{Pr}{100} = 1200$$

$$\frac{P \times 16}{100} = 1200$$

$P = 7500$



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Q9. Nivin invested a certain amount of money in scheme A at simple interest rate of 30% p.a. for 4 years and received a total amount of Rs.33000. If he invests the same amount in scheme B at compound interest rate of 10% p.a. compounded annually for 2 years, then find the compound interest Nivin would receive.

a. Rs.2200

b. Rs.2750

c. Rs.4500

✓ d. Rs.3150

e. Rs.6400

$$33000 - P = P \times \frac{30}{100} \times 4$$

$$33000 = \frac{6P}{5} + P$$

$$\frac{3000}{33000} = \frac{1P}{5}$$

$$\boxed{15000 = P}$$

$$\begin{array}{r} 15000 \\ 1500 \\ \hline 16500 \\ 1650 \\ \hline 18150 \\ - 15000 \\ \hline 3150 \end{array}$$



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Q10. A certain amount is invested at 21% p.a. simple interest for 2 years and obtained an interest of Rs.3570. When the amount obtained from the simple interest is invested at 20% p.a. for 2 years with compound interest. Find the compound interest earned.

a. Rs.6340.8

b. Rs.2310.8

✓ c. Rs.5310.8

d. Rs.7310.8

e. Rs.6310.8

$$3570 = P \times \frac{21}{100} \times 2$$

$$\boxed{8500 = P}$$

$$\begin{array}{r} A = 8500 \\ 3570 \\ \hline 12070 \end{array}$$

$$\begin{array}{r} 12070 \\ 2414 \\ \hline 14484 \\ 2896.8 \\ \hline 17380.8 \end{array}$$

$$\begin{array}{r} 17380.8 \\ 12070 \\ \hline 5310.8 \end{array}$$

$$\begin{array}{r} 1207 \\ 1207 \\ \hline 2414 \\ 1448.4 \\ \hline 1448.4 \\ 2896.8 \end{array}$$

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Q11. A invested Rs.1100 in simple interest at R% per annum for 5 years and B invested Rs.1500 in compound interest at 20% per annum for 2 years. If the interest received by A and B are equal, then find the value of R?

a. 30

b. 18

c. 25

☒ d. 12

e. 20

$$S.I_A = C.I_B$$

$$\frac{1100 \times R \times 5}{100} = 1500 \left(\frac{120}{100} \right)^2 - 1500$$

$$55R = \frac{360}{1500} \times 1500 - 1500$$

$$= 2160 - 1500$$

$$55R = 660$$

$$R = \frac{660}{55}$$

$$R = 12\%$$

$$R = 12\%$$

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Q12. Arav invested Rs.25000 in scheme A at a rate of 10% p.a. simple interest for 4 years. If Rs.($x + 2000$) is invested in scheme B at a rate of 20% per annum compound interest for 2 years, the interest received would be Rs.4720 less than that of scheme A. Find the value of x .

- a. 15000
- b. 10000
- c. 21000
- d. 24000
- e. 16000

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Q13. Amir invested Rs.($x + 1000$) in simple interest at the rate of interest of 20% p.a. for 3 years. Ajay invested Rs.($x - 4000$) in compound interest at the rate of interest of 20% p.a. for 3 years. The interest obtained by Amir is Rs.1208 more than that of Ajay. Find the value of x .

- a. 18000
- b. 14500
- c. 12000
- d. 17000
- e. 15000

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Q14. A invested his amount at 15% p.a. simple interest for 4 years while B invested his amount at 50% p.a. compound interest, compounded annually for 2 years. If the interest received by B is Rs.1670 more than that received by A and their total investment was Rs.4000, then find the difference between the amount invested by A and B.

- a. Rs.600
- b. Rs.320
- c. Rs.400
- d. Rs.550
- e. Rs.720

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Q15. The amount invested by Ram in scheme A to scheme B is in the ratio 2:3. Scheme A is invested at SI at a rate of 5% per annum, and Scheme B is invested at CI at a rate of 20% per annum. The total interest received after 2 years from both schemes is Rs.2812. Find the interest received from Scheme A.

- a. Rs.250
- b. Rs.370
- c. Rs.420
- d. Rs.560
- e. Rs.740

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PRACTICE QUESTIONS

Q16. Pavi invested Rs.5400 in simple interest at 40% per annum for n years. After n years, the interest obtained by Pavi is Rs.2160. Anu invested a certain amount in compound interest at 20% per annum for $2n$ years. If the interest obtained by Anu is Rs.2860, then find the principal amount of Anu?

- a. Rs.4400
- b. Rs.5500
- c. Rs.6500
- d. Rs.3500
- e. None of these

Q17. Avi invested 40% of his monthly income in scheme A, which offers simple interest at a rate of 25% per annum for 3 years and the remaining amount in scheme B, which offers compound interest at a rate of 10% per annum for one year. If the total interest received from both schemes is Rs.1440, then find the monthly income of Avi.

- a. Rs.2400
- b. Rs.1600

- c. Rs.4000
- d. Rs.3600
- e. Rs.5200

Q18. Quantity I: 1230. Quantity II: Rs. x is invested in scheme A in simple interest at a rate of 45% per annum for 4 years and obtained an interest of Rs.14400. If Rs. $2x$ is invested in scheme B in compound interest at a rate of 10% per annum for 2 years, then find the interest received from scheme B. Determine the relationship between Quantity I and Quantity II.

- a. Quantity I > Quantity II
- b. Quantity I $\geq$ Quantity II
- c. Quantity II > Quantity I
- d. Quantity II $\geq$ Quantity I
- e. Quantity I = Quantity II / relation cannot be established

Q19. Arun invested Rs.5000 in simple interest at $x\%$ per annum and Bima invested the same amount in compound interest at 20% per annum. At the end of 2 years, the ratio of the interest received by Arun to that of Bima was 13:11. Find the value of x .

- a. 24
- b. 32

- c. 26
- d. 18
- e. 15

Q20. A man had Rs.24000 with him. He invested Rs.x in scheme A at a rate of interest of 20% per annum compounded annually for 2 years and the rest was invested in scheme B at a rate of 15% per annum for simple interest for 4 years. Interest received from scheme B is Rs.4000 more than the interest received from scheme A. Find the value of x.

- a. 20000
- b. 25000
- c. 10000
- d. 14000
- e. 32000